

## **Abstract of the Disclosure**

A computer implemented method registers an image with a 3D physical object by first acquiring a 3D graphics model of an object. Multiple 3D calibration points a surface of the object and corresponding 3D model calibration points in the 3D graphics model are identified. The object is illuminated with a calibration image using a projector at a fixed location. The calibration image is aligned with each of the 3D calibration points on the surface of the 3D physical object to identify corresponding 2D pixels in the calibration image, and then a transformation between the 2D calibration pixels and the corresponding 3D model calibration points is determined to register the projector with the 3D physical object.